

Appln. No. 09/981,483
Amdt. dated March 19, 2004
Reply to Office action dated Jan. 16, 2004

PATENT
Customer No. 22,878
Attorney Docket No. 10003016
Finnegan Ref. No.: 07896.0058-00000

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A portable medical analyzer comprising:

a sampling module comprising a lancet, a driving mechanism, and a sample port, wherein said sampling port receives at least one body fluid directly from a tissue punctured with said lancet driven by said driving mechanism;

an assay sensor module housed in a cartridge, said cartridge comprising an interface with said sample port and at least one passage way to transport said body fluid to at least one assay sensor in said assay sensor module;

an analytical detector module comprising at least one analytical detector positioned to correspond to said assay sensor, said detector is adapted to detect information from said assay sensor; and

a communication module adapted to communicate with an information management system;

wherein interfacing the cartridge with the sample port includes breaking a pressure seal on the cartridge.

2. (Original) A portable medical analyzer according to claim 1, wherein:

said communication module comprises a transmitter adapted to transfer said information to a remote location.

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3. (Original) A portable medical analyzer according to claim 1, wherein:
said communication module comprises a receiver adapted to communicate with
a remote location.

4. (Original) A portable medical analyzer according to claim 1, wherein:
said sampling module is housed in said cartridge.

5. (Original) A portable medical analyzer according to claim 4, wherein:
said analytical detector module is adapted to couple with said cartridge via a
digital media standard interface.

6. (Currently amended) A portable medical analyzer ~~comprising according to~~
~~claim 4,~~
a sampling module comprising a lancet, a driving mechanism, and a sample port,
wherein said sampling port receives at least one body fluid directly from a tissue
punctured with said lancet driven by said driving mechanism;
an assay sensor module housed in a cartridge, said cartridge comprising an
interface with said sample port and at least one passage way to transport said body
fluid to at least one assay sensor in said assay sensor module;

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an analytical detector module comprising at least one analytical detector
positioned to correspond to said assay sensor, said detector is adapted to detect
information from said assay sensor; and
a communication module adapted to communicate with an information
management system;
wherein said sampling module is housed in said cartridge; and
wherein said analytical detector module is adapted to couple with said
communication module via a PCMCIA interface.

7. (Currently amended) A portable medical analyzer comprising according to
claim 4;

a sampling module comprising a lancet, a driving mechanism, and a sample port,
wherein said sampling port receives at least one body fluid directly from a tissue
punctured with said lancet driven by said driving mechanism;

an assay sensor module housed in a cartridge, said cartridge comprising an
interface with said sample port and at least one passage way to transport said body
fluid to at least one assay sensor in said assay sensor module;

an analytical detector module comprising at least one analytical detector
positioned to correspond to said assay sensor, said detector is adapted to detect
information from said assay sensor; and

a communication module adapted to communicate with an information
management system;

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wherein said sampling module is housed in said cartridge; and

wherein: said cartridge is adapted to a digital media standard interface, said analytical detector module is adapted to couple with said cartridge via said digital media standard interface, said analytical detector module is adapted to a standard port, and said communication module is adapted to couple with said analytical detector module via said standard port.

8. (Original) A portable medical analyzer according to claim 1, wherein:
said transmitter is adapted to at least one interface chosen from radio frequency, infrared and standard ports.

9. (Original) A portable medical analyzer according to claim 1, further comprising:
an information storage unit for storing said information locally on said portable medical analyzer.

10. (canceled)

11. (Currently amended) A method for portable medical analysis
comprising: according to claim 10,
obtaining a body fluid from a tissue punctured with a lancet, the lancet being
driven by a driving mechanism, wherein the body fluid from the tissue flows directly into

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a cartridge having said lancet;

housing said body fluid within the cartridge comprising an assay sensor module;

positioning said cartridge into an analytical detector module;

obtaining information from said analytical detector module;

displaying said information locally on a display within said communication

module; and

transferring said information to a remote location via a communication module;

wherein: positioning said cartridge further comprises breaking a pressure seal on said cartridge, said breaking adapted to transfer said body fluid to at least one assay sensor in said assay sensor module.

12. (Currently amended) A portable medical analyzer comprising:

a sampling module comprising a sample port for receiving at least one body fluid directly from a tissue, said sampling module housed in a cartridge;

an assay sensor module housed in said cartridge, said assay sensor module comprising at least one assay sensor adapted to at least one assay for said body fluid;

an analytical detector module comprising at least one signal processor and circuitry for processing of signals from at least one detector corresponding to said assay sensor, said detector adapted to detect information from said assay;

a communication module coupled to said signal processor, said communication module comprising a transmitter and receiver in communication with an information

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management system, wherein the information management system is a centralized means for collecting and processing information for functions;

wherein interfacing the cartridge with the sample port includes breaking a pressure seal on the cartridge.

13. (Original) A portable medical analyzer according to claim 12, wherein:
said communication module is adapted to displaying said information locally on said portable medical analyzer.

14. (Original) A portable medical analyzer according to claim 12, wherein:
said communication module is adapted to displaying historical data locally on portable medical analyzer.

15. (Original) A portable medical analyzer according to claim 12, wherein:
said transmitter is adapted to at least one interface chosen from radio frequency, infrared and standard ports.

16. (Original) A portable medical analyzer according to claim 12, wherein:
said transmitter is adapted to communicate with a remote database.

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17. (Original) A portable medical analyzer according to claim 12, wherein:
said communication module further comprises a storage unit for storing said
information locally on said portable medical analyzer.

18. (Original) A portable medical analyzer according to claim 12, wherein:
said information management system comprises a system for brokering medical
data.

19. (Original) A portable medical analyzer according to claim 12, wherein:
said information management system comprises a system for patient
management.

20. (Original) A portable medical analyzer according to claim 12, wherein:
said information management system comprises a system for administering said
portable medical analyzer.

21. (Currently amended) A method for portable medical analysis comprising:
obtaining a body fluid;
housing said body fluid within a cartridge comprising an assay sensor module;
positioning said cartridge into an analytical detector module, wherein positioning
said cartridge comprises breaking a pressure seal on said cartridge, said breaking
adapted to transfer said body fluid to at least one assay sensor in said assay sensor

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module;

obtaining information from said analytical detector module;

displaying said information locally on a display within said communication

module; and

transferring said information to a remote location via athe communication module.

22. (Currently amended) A portable medical analyzer comprising:

a sampling module comprising a sample port for receiving at least one body fluid directly from a tissue, said sampling module housed in a cartridge;

an assay sensor module housed in said cartridge, said assay sensor module comprising at least one assay sensor adapted to at least one assay for said body fluid;

an analytical detector module comprising at least one signal processor and circuitry for processing of signals from at least one detector corresponding to said assay sensor, said detector adapted to detect information from said assay; and

a communication module coupled to said signal processor, said communication module comprising a transmitter and receiver in communication with an information management system, wherein said information management system comprises a means for brokering medical data;

wherein interfacing the cartridge with the sample port includes breaking a pressure seal on the cartridge.

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23. (Currently amended) A method for portable medical analysis comprising:
obtaining a body fluid directly from a tissue puncture created by a lancet, wherein the lancet is driven outward from a cartridge by a lancet driver and wherein the body fluid from the tissue puncture flows into the cartridge;
housing said body fluid within the cartridge, said cartridge having an assay sensor;
obtaining information regarding said body fluid in the cartridge from an analytical detector in communication with the assay sensor; and
transferring said information to a remote location via a communication module;
wherein a pressure seal on the cartridge is broken, via interface with the analytical detector, during transfer of the body fluid to the assay sensor.

24. (Previously presented) A method as in claim 23 further comprising displaying said information locally on a display coupled to said communication module.

25. (Previously presented) A method as in claim 23 wherein said communication module is adapted to transfer said information to a remote location.

26. (Previously presented) A method as in claim 23 wherein said cartridge includes a plurality of assay sensors, each of said sensors performing the same analysis on the body fluid.

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27. (Previously presented) A method as in claim 23 wherein said cartridge includes a plurality of assay sensors, each of said sensors performing a variety of different analysis on the body fluid.

28. (Previously presented) A method as in claim 27 wherein at least one of said sensors provides analysis for one of the following: a blood chemistry, hematology, immuno-diagnostics those for drugs of abuse, serum cholesterol, glucose, FOBT, pregnancy, ovulation, DNA based assays, immuno assays, proteomics and genomics.

29. (Previously presented) A method as in claim 23 wherein said communication module uses at least one interface chosen from radio frequency, infrared and standard ports.

30. (Previously presented) A method as in claim 23 wherein said lancet is driven by an electromechanical lancet driver.

31. (Previously presented) A method as in claim 23 wherein said lancet is driven by an electrical lancet driver.

32. (Currently amended) A portable medical analyzer comprising:
a lancet within a cartridge;
a lancet driver for advancing said lancet to puncture tissue;
a sample pathway for receiving at least one body fluid directly from a tissue puncture formed by said lancet, said pathway contained within the cartridge;

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at least one assay sensor housed in said cartridge, said sensor adapted for at least one assay for said body fluid received by said sample pathway;

an analytical detector comprising at least one signal processor and circuitry for processing of signals from at least one detector corresponding to said assay sensor, said detector adapted to detect information from said assay; and

a communication module coupled to said signal processor, said communication module comprising a transmitter and receiver in communication with an information management system;

wherein a pressure seal on the cartridge is broken, via interface with the analytical detector, during transfer of the body fluid to the assay sensor.

33. (Previously presented) A portable medical analyzer according to claim 32, wherein:

said communication module comprises a transmitter adapted to transfer said information to a remote location.

34. (Previously presented) A portable medical analyzer according to claim 32, wherein:

said communication module comprises a receiver adapted to communicate with a remote location.

35. (Previously presented) A portable medical analyzer according to claim 32, wherein:

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communication module has a transmitter using one of the following for
transmission of information to a remote location: infrared or radio frequency signals.

36. (Previously presented) A portable medical analyzer according to claim 32,
wherein:

communication module includes at least one of the following: a processor,
display, RF chip, antenna, an operating system, RAM, DRAM, or a PCMCIA interface.

37. (Previously presented) A portable medical analyzer according to claim 32,
wherein:

said communication module is adapted to couple with said analytical detector via
a standard port.

38. (Previously presented) A portable medical analyzer according to claim 32,
wherein:

said transmitter is adapted to include at least one interface chosen from radio
frequency, infrared and standard ports.

39. (Previously presented) A portable medical analyzer according to claim 32,
further comprising:

an information storage unit for storing said information locally on said portable
medical analyzer.

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40. (Previously presented) A portable medical analyzer according to claim 32, wherein said driver comprises an electromechanical lancet driver.

41. (Previously presented) A portable medical analyzer according to claim 32 wherein said driver comprises an electrical lancet driver.

42. (Previously presented) A portable medical analyzer comprising:
a sampling module comprising a lancet, a driving mechanism, and a sample port, wherein said sampling port receives at least one body fluid from a tissue punctured with said lancet driven by said driving mechanism, said sampling module is housed in said cartridge;

an assay sensor module housed in a cartridge, said cartridge comprising an interface with said sample port and at least one passage way to transport said body fluid to at least one assay sensor in said assay sensor module;

an analytical detector module comprising at least one analytical detector positioned to correspond to said assay sensor, said detector is adapted to detect information from said assay sensor, said analytical detector module is adapted to couple with a communication module via a PCMCIA interface; and

said communication module adapted to communicate with an information management system.

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43. (Previously presented) A portable medical analyzer comprising:

a sampling module comprising a lancet, a driving mechanism, and a sample port, wherein said sampling port receives at least one body fluid from a tissue punctured with said lancet driven by said driving mechanism, said sampling module is housed in a cartridge.

an assay sensor module housed in said cartridge, said cartridge comprising an interface with said sample port and at least one passage way to transport said body fluid to at least one assay sensor in said assay sensor module;

an analytical detector module comprising at least one analytical detector positioned to correspond to said assay sensor, said detector is adapted to detect information from said assay sensor; and

a communication module adapted to communicate with an information management system, wherein said cartridge is adapted to a digital media standard interface, said analytical detector module is adapted to couple with said cartridge via said digital media standard interface, said analytical detector module is adapted to a standard port, and said communication module is adapted to couple with said analytical detector module via said standard port.

44. (New) The method of claim 21 wherein the positioning of the cartridge into the analytic detector module provides connection via a digital media standard interface.

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45. (New) The method of claim 21 wherein the positioning of the cartridge into the analytic detector module provides connection via a PCMCIA interface.

46. (New) The method of claim 21 wherein the cartridge is adapted to a digital media standard interface, wherein the positioning of the cartridge into the analytic detector module provides connection via a digital media standard interface, wherein the analytical detector module is adapted to a standard port, and wherein the communication module is adapted to couple with said analytical detector module via the standard port.

47. (New) The method of claim 21 wherein the cartridge houses a sampling module.

48. (New) The method of claim 47 wherein the positioning of the cartridge into the analytic detector module provides connection via a digital media standard interface.

49. (New) The method of claim 47 wherein the positioning of the cartridge into the analytic detector module provides connection via a PCMCIA interface.

50. (New) The method of claim 47 wherein the cartridge is adapted to a digital media standard interface, wherein the positioning of the cartridge into the analytic

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detector module provides connection via a digital media standard interface, wherein the analytical detector module is adapted to a standard port, and wherein the communication module is adapted to couple with said analytical detector module via the standard port.

51. (New) The method of claim 21 wherein the communication module includes one or more of the following: a processor, a display, a radio frequency chip, an antenna, memory containing an operating system, RAM, DRAM or a PCMIA interface.

52. (New) The method of claim 21 wherein the communication module includes a receiver adapted to communicate with a remote location.

53. (New) The method of claim 21 wherein the communication module includes a transmitter.

54. (New) The method of claim 53 wherein the transmitter is adapted to one or more of interface selected from the group consisting of radio frequency, infrared and standard ports.

55. (New) The method of claim 53 wherein the transmitter is adapted to communicate with a remote database.

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56. (New) The method of claim 21 further comprising the step of storing the information locally in an information storage unit associated with the portable medical analyzer.

57. (New) The method of claim 21 wherein the communication module includes a transmitter and a receiver, both in communication with an information management system, wherein the information management system is a centralized means for collecting and processing information for functions.

58. (New) The method of claim 21 further comprising acquiring historical data locally via the communication module.

59. (New) The method of claim 21 further comprising storing historical data locally in association with the communication module, the analytical detector module, the cartridge or the assay sensor module.

60. (New) The method of claim 21 further comprising displaying historical data locally on the display.

61. (New) The method of claim 21 wherein the transferring of information is accomplished via an information management system.

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62. (New) The method of claim 21 wherein the processing of information is accomplished via an information management system that includes procedures for brokering medical data.

63. (New) The method of claim 21 wherein the processing of information is accomplished via an information management system that includes patient management procedures.

64. (New) The method of claim 21 wherein the processing of information is accomplished via an information management system that includes procedures for administering the medical analysis.

65. (New) The method of claim 21 wherein the processing of information is accomplished via an information management system that includes procedures for administering the medical analysis.

66. (New) The method of claim 21 wherein the sensor provides analysis for one of the following: a blood chemistry, hematology, immuno-diagnostics those for drugs of abuse, serum cholesterol, glucose, FOBT, pregnancy, ovulation, DNA-based assays, immuno assays, proteomics or genomics.

67. (New) The method of claim 21 wherein the sensor provides analysis for one or more of the following: a blood chemistry, hematology, immuno-diagnostics those

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for drugs of abuse, serum cholesterol, glucose, FOBT, pregnancy, ovulation, DNA-based assays, immuno assays, proteomics or genomics.

68. (New) The method of claim 21 wherein said cartridge includes a plurality of assay sensors, each of said sensors performing the same analysis on the body fluid.

69. (New) The method of claim 68 wherein at least one of said sensors provides analysis for one of the following: a blood chemistry, hematology, immuno-diagnostics those for drugs of abuse, serum cholesterol, glucose, FOBT, pregnancy, ovulation, DNA based assays, immuno assays, proteomics and genomics.

70. (New) The method of claim 21 wherein said cartridge includes a plurality of assay sensors, and two or more of the sensors perform different analyses on the body fluid.

71. (New) The method of claim 70 wherein at least one of said sensors provides analysis for one of the following: a blood chemistry, hematology, immuno-diagnostics those for drugs of abuse, serum cholesterol, glucose, FOBT, pregnancy, ovulation, DNA based assays, immuno assays, proteomics and genomics.

72. (New) The method of claim 21 wherein said cartridge includes a plurality of assay sensors, each of said sensors performing a different analysis on the body fluid.

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73. (New) The method of claim 72 wherein at least one of said sensors provides analysis for one of the following: a blood chemistry, hematology, immuno-diagnostics those for drugs of abuse, serum cholesterol, glucose, FOBT, pregnancy, ovulation, DNA based assays, immuno assays, proteomics and genomics.

74. (New) The method of claim 21 wherein the body fluid is obtained from a tissue puncture created by a lancet that is integrally associated with the cartridge.

75. (New) The method of claim 74 wherein the lancet is advanced from the cartridge by a lancet driver to puncture the tissue.

76. (New) The method of claim 75 wherein the lancet driver is an electromechanical lancet driver.

77. (New) The method of claim 75 wherein the lancet driver is an electrical lancet driver.

78. (New) The method of claim 47 wherein the body fluid is obtained from a tissue puncture created by a lancet that is integrally associated with the cartridge.

79. (New) The method of claim 78 wherein the lancet is advanced from the cartridge by a lancet driver to puncture the tissue.

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80. (New) The method of claim 79 wherein the lancet driver is an
electromechanical lancet driver.

81. (New) The method of claim 79 wherein the lancet driver is an electrical
lancet driver.